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STATION LIBRARY

YOUR VISIT TO

THE FOREST OF THE ANCIENT BRISTLECONE PINES

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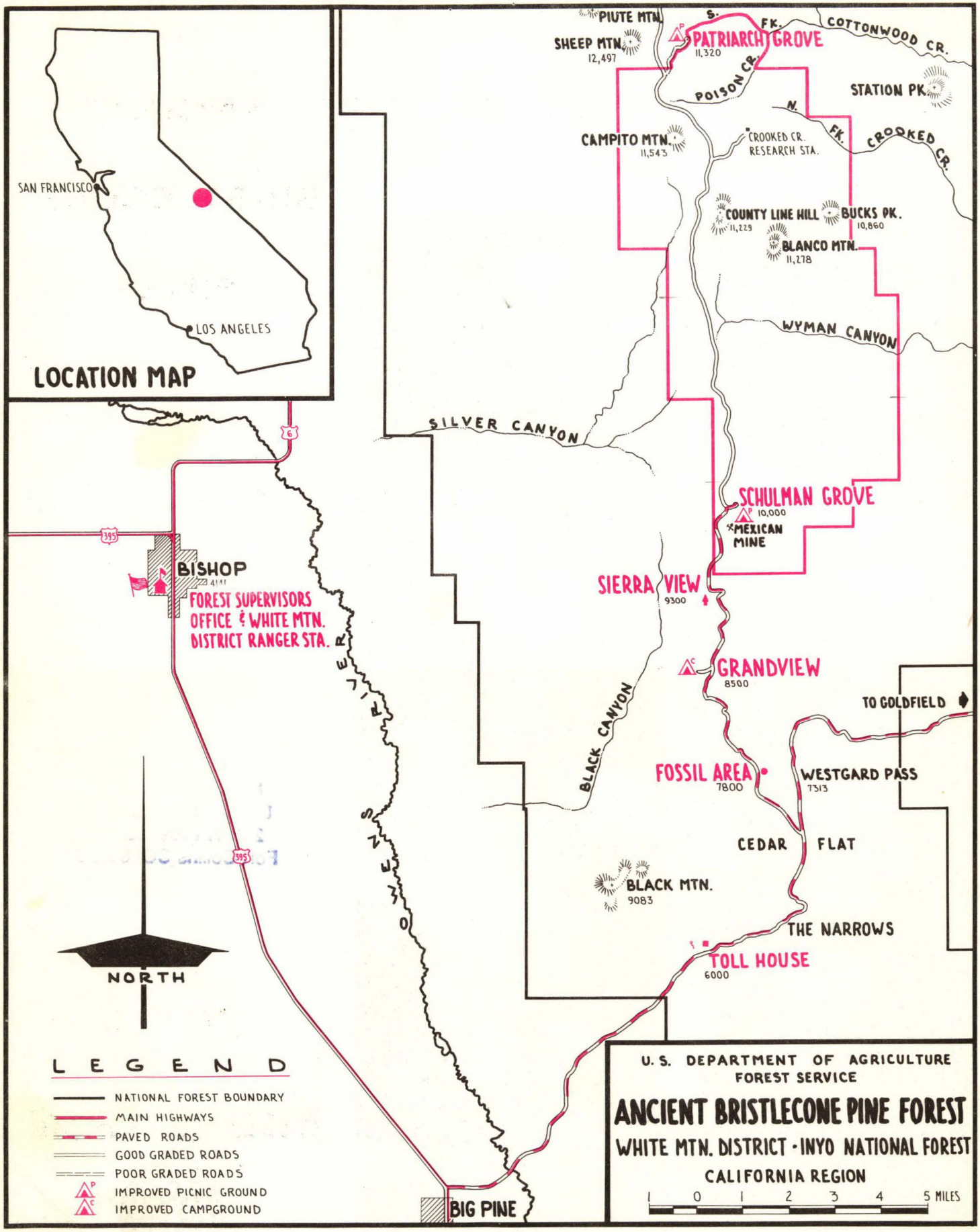
INYO

National Forest

[1964]

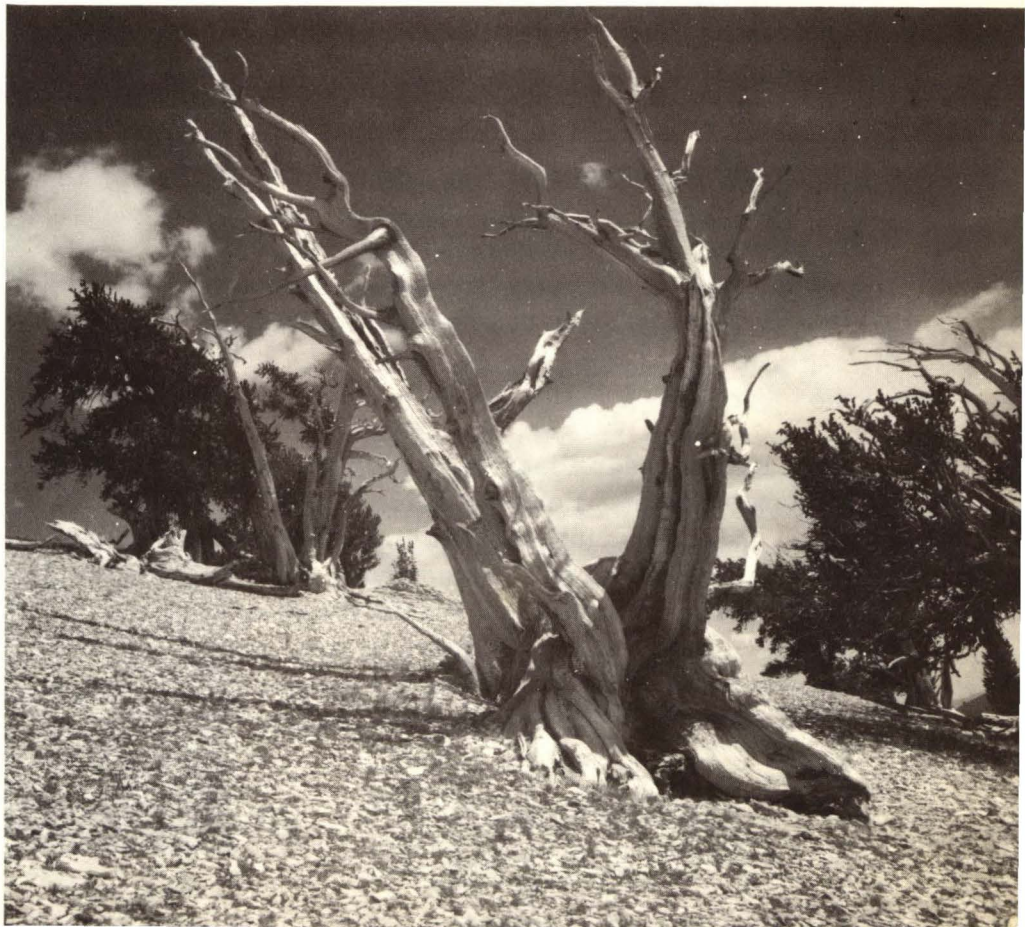
NATIONAL FORESTS
Lands of many uses


LOCATION MAP
SAN FRANCISCO
LOS ANGELES
PIUTE MTN.
SHEEP MTN.
12,497
S. FK. COTTONWOOD CR.
PATRIARCH GROVE
11,320
POISON CR.
STATION PK.
N. FK. CROOKED CR.
CAMPITO MTN.
11,543
CROOKED CR. RESEARCH STA.
COUNTY LINE HILL
11,229
BUCKS PK.
10,860
BLANCO MTN.
11,278
WYMAN CANYON
SILVER CANYON
SCHULMAN GROVE
10,000
*MEXICAN MINE
SIERRA VIEW
9300
GRANDVIEW
8500
TO GOLDFIELD
BLACK CANYON
FOSSIL AREA
7800
WESTGARD PASS
7313
CEDAR FLAT
BLACK MTN.
9083
THE NARROWS
TOLL HOUSE
6000
BISHOP
4141
FOREST SUPERVISORS OFFICE & WHITE MTN. DISTRICT RANGER STA.
BIG PINE
OWENS RIVER
NORTH
LEGEND
NATIONAL FOREST BOUNDARY
MAIN HIGHWAYS
PAVED ROADS
GOOD GRADED ROADS
POOR GRADED ROADS
IMPROVED PICNIC GROUND
IMPROVED CAMPGROUND
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ANCIENT BRISTLECONE PINE FOREST
WHITE MTN. DISTRICT · INYO NATIONAL FOREST
CALIFORNIA REGION
1 0 1 2 3 4 5 MILES

The U. S. Forest Service welcomes you to the oldest known living things on earth. Some of the trees in the Ancient Bristlecone Pine Forest have been growing for more than 4,000 years. Methuselah, the oldest one, has been here 4,600 years, 1,000 years longer than the oldest redwood. Some of them were well started when the ancient Egyptians were building the pyramids 15 centuries before the birth of Christ.

These are not the stately giants of the redwoods, but gnarled and twisted veterans due to their location on exposed ridges with poor soil, high winds, and low rainfall. In many cases they are just barely hanging on to life.

Because of its location at high elevation in a moonlike setting, the Ancient Bristlecone Pine Forest is one of the most spectacular and fascinating areas to be found anywhere. In 1953, the Forest Service set aside a Natural Area of 2,330 acres to protect examples of the old trees. In 1958, after Dr. Edmund Schulman from the University of Arizona found some of the trees to be more than 4,000 years old, the Forest Service created a 28,000 acre Botanical Area, naming it the Ancient Bristlecone Pine Forest. Foresters of the Inyo National Forest manage it for "scientific study and public enjoyment." While protection of the trees and landscape is the primary objective, other uses of the land which do not interfere, such as cattle grazing, hunting, fishing, and public recreation are allowed to continue.



Symphony in wood as a quartet of living and dead bristlecone pines make music together in form and posture on a wild, high slope of the White Mountains.

The area is normally open from June 1 to October 30. The weather is usually best in July or August. You can see much on a one day trip. If you stay longer, you will find many new areas to explore each day.

To get there, turn east from Highway 395, onto the Westgard Pass Road, 1/2 mile north of Big Pine, California. This road takes you across the Owens River which is diverted into an aquaduct several miles south of here. This water, most of which had its origin on the Inyo National Forest, flows through the aquaduct to Los Angeles where it makes up a large portion of the city's water supply. The huge metal discs you see off to your left while still on the floor of the valley are radio-telescopes belonging to the California Institute of Technology. Using these telescopes, scientists have located stars six billion light years away from Earth.

The Westgard Pass Road follows an old mining trail used in the 1860's to reach mining claims in Cedar Flats area. In 1873, this trail was improved and opened as the Deep Springs Valley Toll Road. It was later renamed for A. L. Westgard who passed through the area in 1916 looking for transcontinental highway routes. You can still see an old tollhouse at Batchelder Spring--the only water source along this road. We suggest you fill your canteens here.

Fourteen miles after leaving Highway 395, you come to a broad flat covered with California juniper, locally known as "cedar" -- hence the name Cedar Flat. Piñon pines also grow here. During wet years these produce a good crop of piñon nuts. In the early days, Piute Indians from the Owens Valley spent much time here each fall gathering these pine nuts -- and still do in good nut years.

Turn left at Cedar Flat onto the White Mountain road. A large wooden sign marks the turnoff point. Follow a graded road for seven miles as it climbs through the piñon and juniper into the realm of the Bristlecone Pine at 9,000 feet. In the Fossil Area shown on the map you'll find fossils of the Archaecythidae held in a calcareous matrix. They are the simplest and most ancient coral-like animals known -- a characteristic fossil of the Lower Cambrian Period. The rock is easily cut and polished. You may take a small piece as a souvenir of your visit to the White Mountains but no commercial collecting is permitted.

There are several excellent viewpoints along this road. At the best of these you stand one mile above Owens Valley and view the eastern escarpment of the High Sierra mountains north from the town of Independence to the jagged Minarets near Mammoth Lakes. The peaks rise 10,000 feet above the valley floor and 14,000 feet above sea level. You can see the southernmost glacier in the United States, Palisade Glacier, just west of the town of Big Pine. This view is outstanding, particularly before 10:00 a.m. when the sun is at your back.

About 3 1/2 miles from Cedar Flat look to the east or your right for a view of Deep Springs Valley and its alkaline lake. This is a blue gem set in white surrounded by the gray-green desert shrubs with the Inyo mountains for a scenic backdrop.

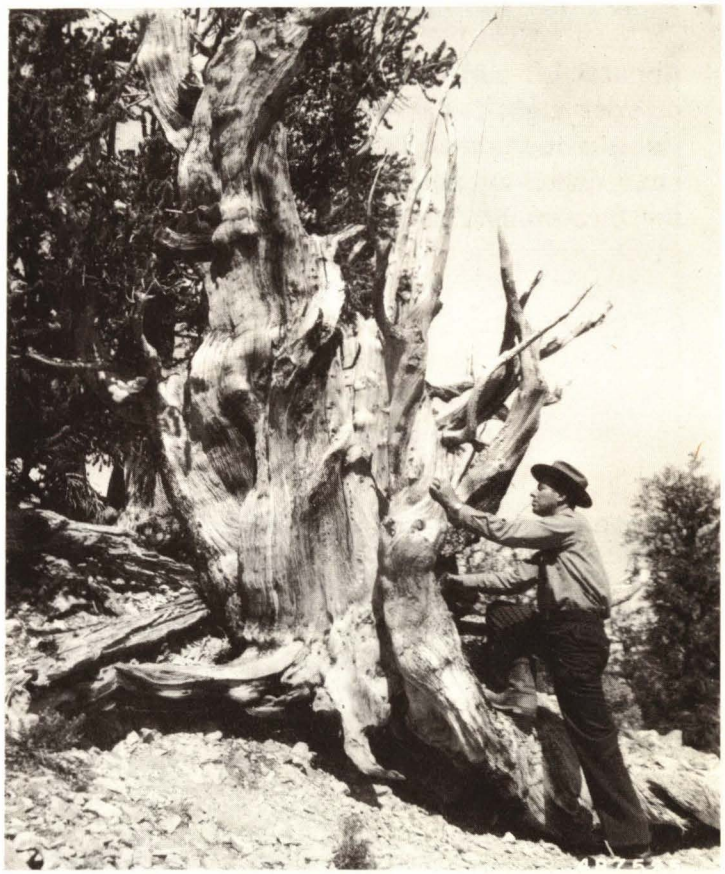
As you enter the Ancient Bristlecone Pine Forest, you will see two species of pine trees -- bristlecone and limber pine. You can tell the difference between the two by the appearance of the needles on the branchlets. Limber pine needles are in short tufts at the end of the branchlets, while bristlecone pine needles run back along the branchlets for a foot or more, giving them the appearance of fox tails . In the summer, the limber pine cones are green and smooth, while those of the bristlecone pine are purple with sharp bristles at the end of each cone scale. Bristlecone is much the older of the two.

By the time you reach Schulman Grove, you are in an area of almost pure Bristlecone pine. This grove, at 10,000 elevation, is the area of the oldest known trees. A Forest Naturalist is stationed here to answer your questions and help you with your trip. To protect the area and the trees, removal of plants, living or dead, is prohibited. Please do not ask the Naturalist for special permission to remove any of the bristlecone pine wood or foliage. Permits for this are granted only to accredited institutions for scientific study.

At Schulman Grove, you'll find a small picnic ground, an outdoor information center, and two self-guided hiking tours.

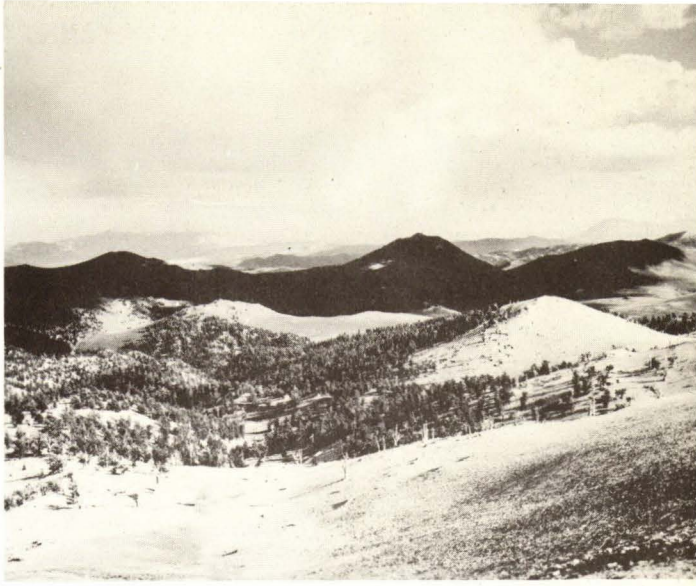
One of these trails leads one half mile from Schulman Grove to Pine Alpha, a 4,300 year old tree. Pine Alpha was dated by extracting long, thin cores of wood with an increment borer. This way, the tree's annual growth rings could be counted without permanently damaging the tree. This ancient tree--while nearly four feet across--has only a 10 inch strip of bark and living tissue. Less than 10 per cent of the tree is still alive.

These trees owe their great age, partly at least, to their ability to allow some of the tree to die so that a small part may live on in equilibrium with its harsh environment. This tree still produces seed from which new trees can grow.



Pine Alpha

A two mile trail leads to Methuselah Walk from Schulman Grove. Methuselah is the oldest tree known to exist anywhere in the world. Visiting it is a full day's trip in itself. For information on exploring this area, please contact the Schulman Grove Naturalist.

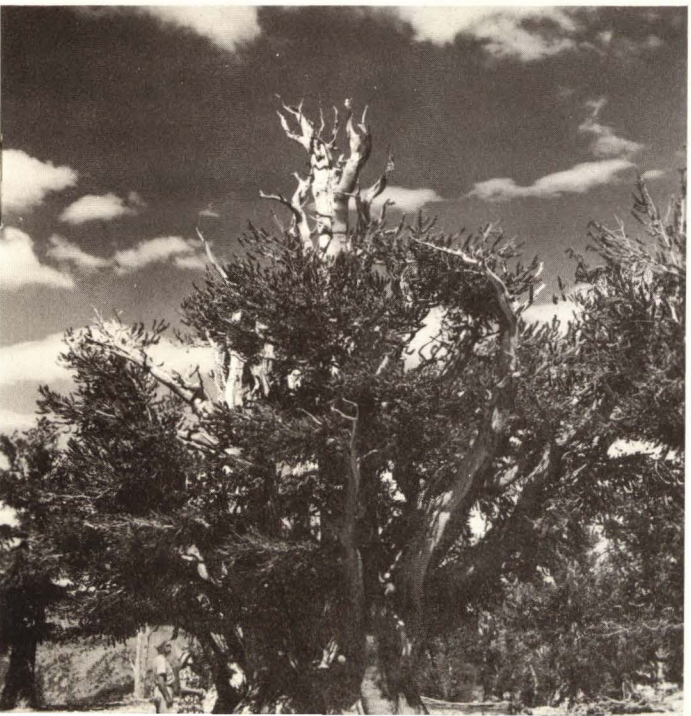


A must for the photographer is the Patriarch Grove at 11,000 feet elevation. It contains the largest and most grotesque bristlecone pines in a setting vaguely reminiscent of a moonscape. To reach the Patriarch Grove, drive approximately twelve miles north from Schulman Grove along the main road. This will take you through a land completely different from any other you drive through in California. The vast open spaces and panorama of colorful mountain views are most impressive. During August, you will find red Indian paint brush, blue lupin, and white desert sweet in full bloom. Wildlife in this semi-arid region is not abundant; however, you will see golden mantled ground squirrels, chipmunks and possibly, deer, badger, porcupine, coyote and skunks. Mountain sheep and mountain lion are here also but not often seen. Wild horses inhabit the lower elevations at the north end of the White Mountains.

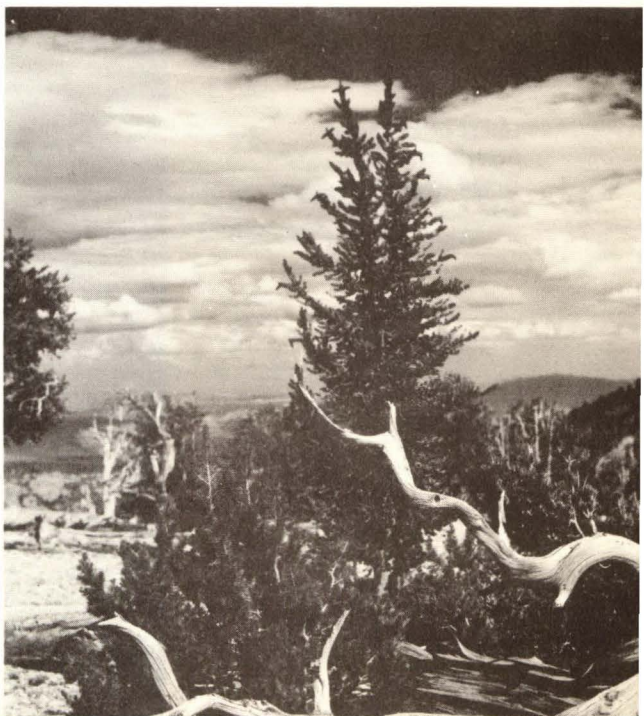
The Patriarch area has two 1/2 mile self-guided loop trails. One trail takes you to the Patriarch, a multiple-stemmed tree, the world's largest bristlecone pine. It has a circumference of 36 feet 8 inches.

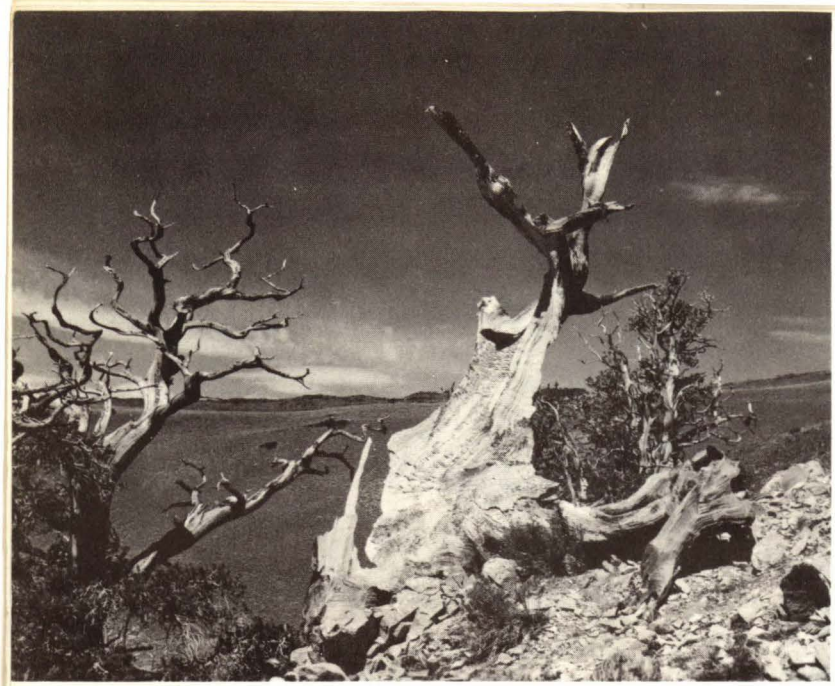
The trails were laid out with photographers in mind and are at their best between noon and 4:00 p.m. Along them, in addition to the older trees, you will see younger trees that show how the Patriarch developed.

The Patriarch



"Young" Bristlecone pines



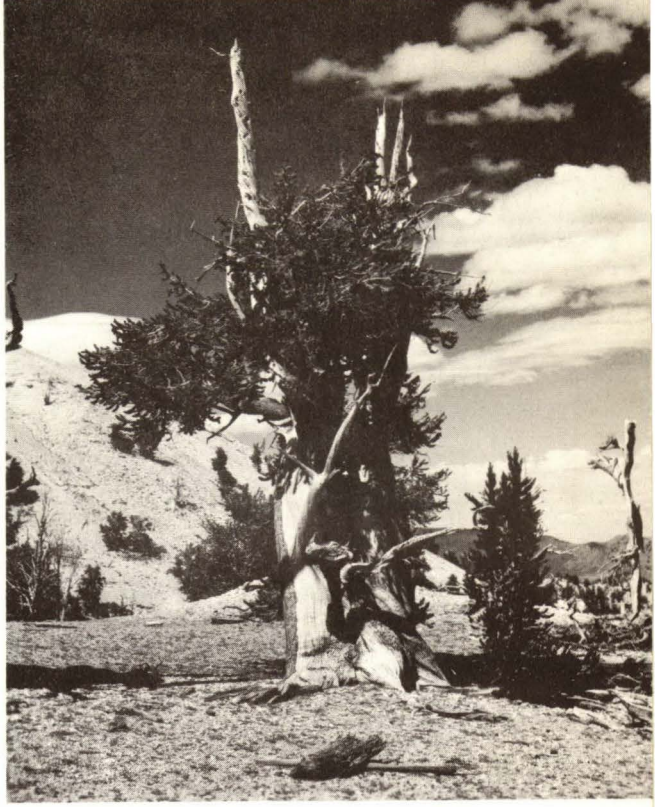


Many of the old trees have been sculptured into objects of beauty by sand, ice, and fire. From this area you get a good look at the mountain ranges of Nevada.

During your trip, you may drive another two miles beyond the Patriarch Grove. Where the road breaks over the shoulder of Sheep Mountain you will be at nearly 12,000 feet elevation above sea level. This point commands a view of White Mountain Peak, 14,242 feet elevation, and an unusual view of the backbone of the White Mountains. This is the end of the road! You can explore many miles of country from here on foot, if you wish. We hope that you have enjoyed your visit to the Forest of the Ancient Bristlecone Pine, a part of the Inyo National Forest.

Ghost of an ancient bristlecone pine flings its bony arms into the wind.

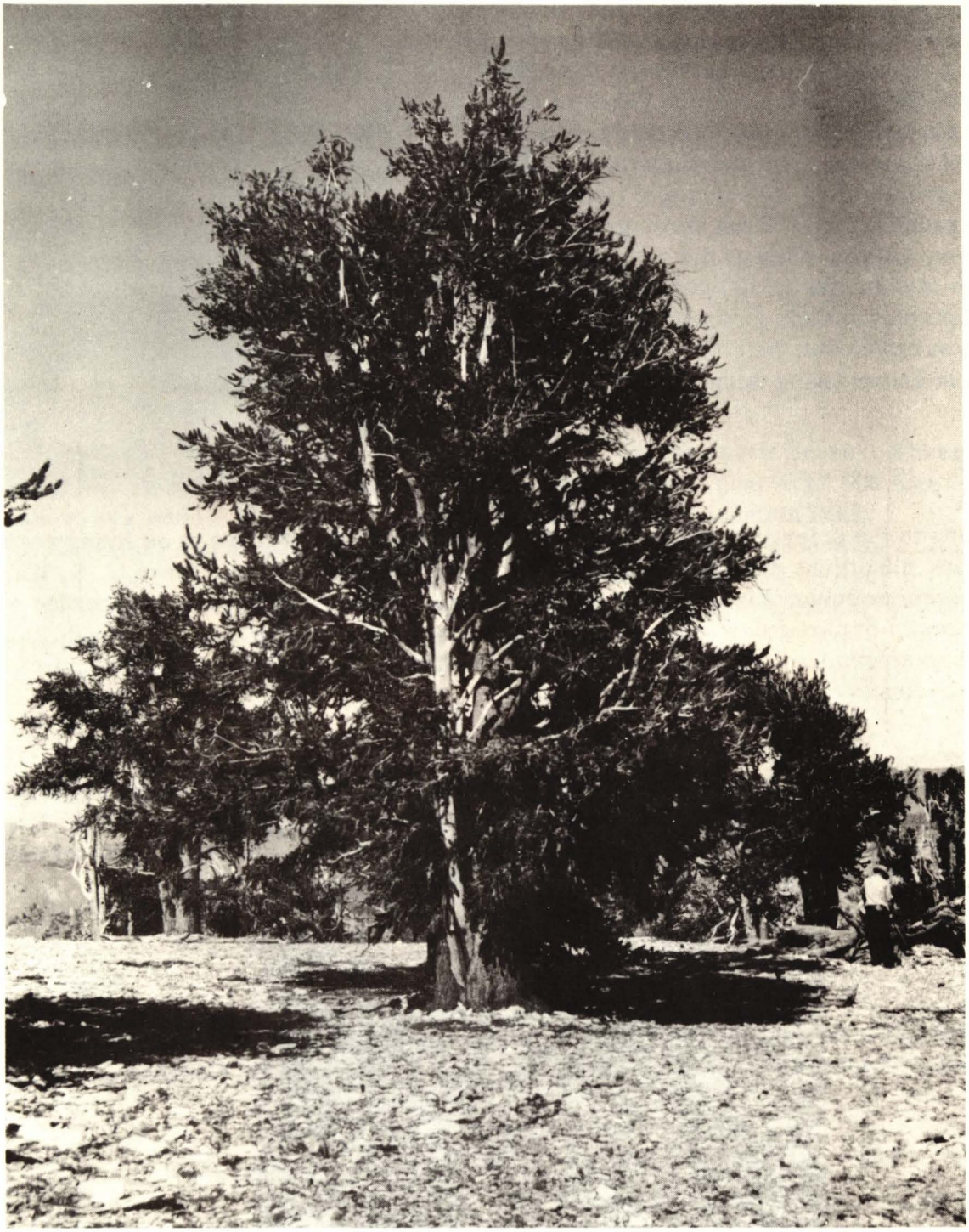
The oldest Bristlecone pines grow in dolomitic soil which is very alkaline and normally not considered suitable for forest tree growth. Precipitation amounts to only 10 inches of water per year; the soil is shallow and rocky; erosion has bared a large portion of the trees' root systems during their 4,000 years of life. To sustain life under these difficult conditions, the trees have had to be content with maintaining life and growth along a very small portion of their circumference. Even here, growth takes place very slowly, often at the rate of only one inch of diameter in 100 years. Apparently, this adaptation to their environment has enabled them to survive over the centuries and become the oldest known living things in the world.



According to the scientists, this extreme age has enabled these trees to be living recorders of climatic conditions and fluctuations for more than forty centuries. Since U. S. Weather Bureau records cover only about 100 years, study of the weather cycles as recorded by these trees is of particular importance to science. Through study of their growth, scientists are able to determine long range fluctuations and trends in the climate and the nature of wet and dry cycles.

It is possible that further studies of the weather cycles could shed some light on water problems plaguing California and the Southwest. University of California, UCLA, University of Pennsylvania, Harvard University, and the University of Arizona have active research programs under way here to study genetics, plant physiology, and ecology.

For additional information, we suggest you read Dr. Schulman's article "Bristlecone Pine--Oldest Known Living Thing", in March 1958 issue of National Geographic Magazine.



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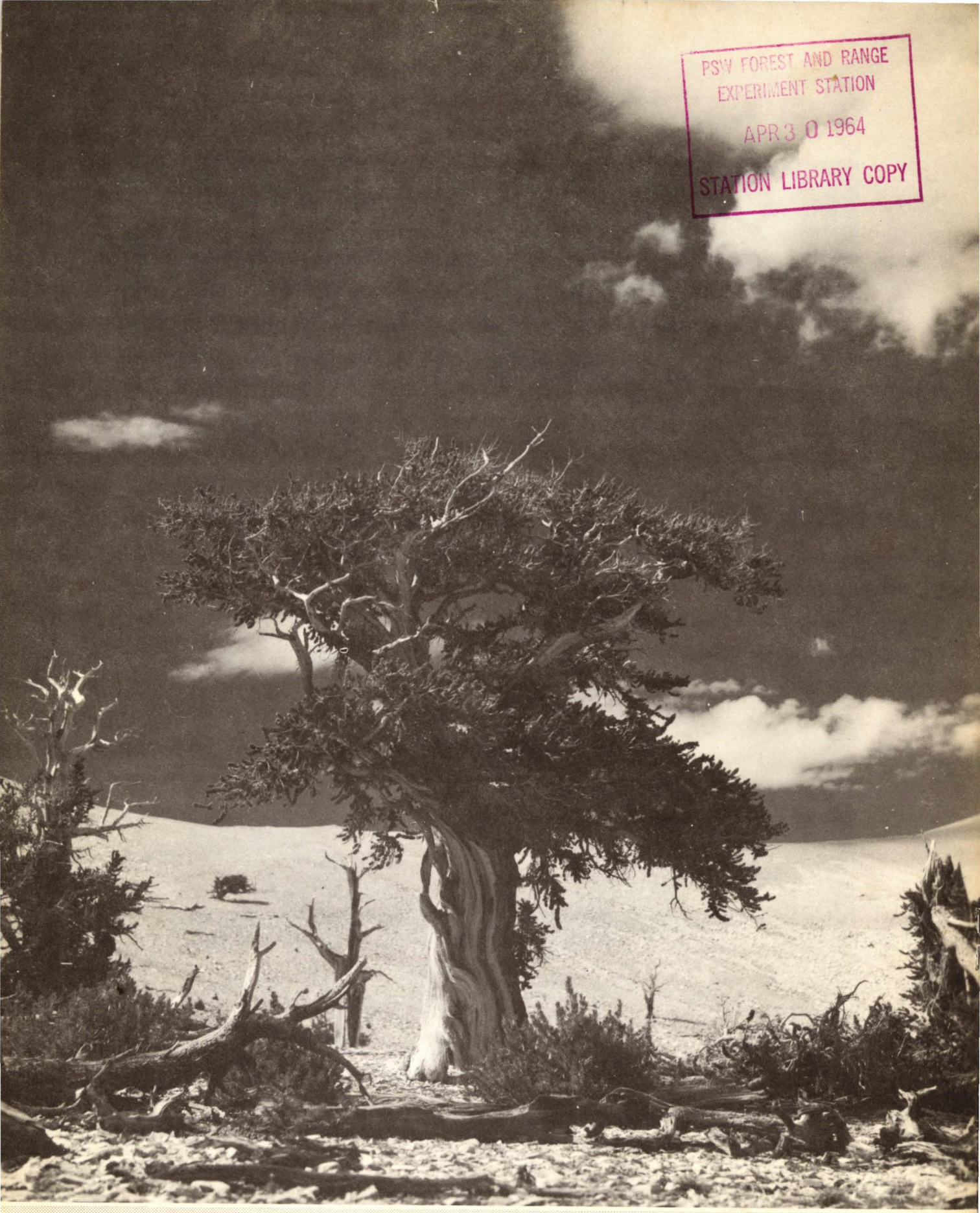

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